WHAT IS CLAIMED IS

1. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of CD16 antigen-expressing cells; and

selecting the animal with the lowest quantity of CD16 antigen-expressing cells,

thereby selecting for robustness among two or more animals.

2. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of CD16 and CD2 double-positive antigen-expressing cells; and

selecting the animal with the lowest quantity of CD16 and CD2 double-positive antigen-expressing cells,

thereby selecting for robustness among two or more animals.

3. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of CD8 antigen-expressing cells; and

selecting the animal with the lowest quantity of CD8 antigen-expressing cells,

thereby selecting for robustness among two or more animals.

4. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of MHC-DQ antigen-expressing cells; and

selecting the animal with the highest quantity of MHC-DQ antigen-expressing cells,

thereby selecting for robustness among two or more animals.

5. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB; and

selecting the animal with the highest quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB,

thereby selecting for robustness among two or more animals.

6. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQD; and

selecting the animal with the highest quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQD,

thereby selecting for robustness among two or more animals.

7. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the proliferation frequency of CD4 antigen-expressing cells; and

selecting the animal with the lowest proliferation frequency of CD4 antigen-expressing cells,

thereby selecting for robustness among two or more animals.

8. The method of claim 1, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

9. The method of claim 2, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

10. The method of claim 3, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

11. The method of claim 4, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

12. The method of claim 5, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

13. The method of claim 6, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus*

domesticus, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

14. The method of claim 7, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

15. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantities of CD16 antigen-expressing cells, CD16 and CD2 double-positive antigen-expressing cells, CD8 antigen-expressing cells, MHC-DQ antigen-expressing cells, cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB, and cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQD;

determining in each animal the proliferation frequency of CD4 antigen-expressing cells; and

selecting the animal with the lowest quantity of CD16 antigen-expressing cells, the lowest quantity of CD16 and CD2 double-positive antigen-expressing cells, the lowest quantity of CD8 antigen-expressing cells, the highest quantity of MHC-DQ antigen-expressing cells, the highest quantity of cells expressing an antigen targeted by MHC-DQ antibodies as MHC-DQB, the highest quantity of cells expressing an antigen targeted by MHC-DQ antibodies as MHC-DQD, and the lowest proliferation frequency of CD4 antigen-expressing cells,

thereby selecting for robustness among two or more animals.

16. The method of claim 15, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus*

domesticus, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

17. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of CD16 antigen-expressing cells;

determining a statistically significant association between an animal's quantity of CD16 antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

18. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of CD16 and CD2 double-positive antigen-expressing cells;

determining a statistically significant association between an animal's quantity of CD16 and CD2 double-positive antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

19. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of CD8 antigen-expressing cells;

determining a statistically significant association between an animal's quantity of CD8 antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

20. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of MHC-DQ antigen-expressing cells;

determining a statistically significant association between an animal's quantity of MHC-DQ antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

21. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB;

determining a statistically significant association between an animal's quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB and robustness; and

selecting for the animal in order to improve robustness based on the association.

22. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQD;

determining a statistically significant association between an animal's quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQD; and

selecting for the animal in order to improve robustness based on the association.

23. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the proliferation frequency of CD4 antigen-expressing cells;

determining a statistically significant association between an animal's proliferation frequency of CD4 antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

24. The method of claim 17 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

25. The method of claim 18 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

26. The method of claim 19 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

27. The method of claim 20 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

28. The method of claim 21 wherein the species is selected from the group consisting of *Bos taurus*, *Sus*

scrofa, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

29. The method of claim 22 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

30. The method of claim 23 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

31. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of CD16 antigen-expressing cells; and

selecting the animal with the lowest quantity of CD16 antigen-expressing cells,

thereby selecting for robustness among two or more animals.

32. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of CD16 and CD2 double-positive antigen-expressing cells; and

selecting the animal with the lowest quantity of CD16 and CD2 double-positive antigen-expressing cells,

thereby selecting for robustness among two or more animals.

33. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of CD8 antigen-expressing cells; and

selecting the animal with the lowest quantity of CD8 antigen-expressing cells,

thereby selecting for robustness among two or more animals.

34. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of MHC-DQ antigen-expressing cells; and

selecting the animal with the highest quantity of MHC-DQ antigen-expressing cells,

thereby selecting for robustness among two or more animals.

35. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB; and

selecting the animal with the highest quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB,

thereby selecting for robustness among two or more animals.

36. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQD; and

selecting the animal with the highest quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQD,

thereby selecting for robustness among two or more animals.

37. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the proliferation frequency of CD4 antigen-expressing cells; and

selecting the animal with the lowest proliferation frequency of CD4 antigen-expressing cells,

thereby selecting for robustness among two or more animals.

38. The method of claim 31 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

39. The method of claim 32 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

40. The method of claim 33 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

41. The method of claim 34 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

42. The method of claim 35 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

43. The method of claim 36 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

44. The method of claim 37 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

45. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of CD16 antigen-expressing cells;

determining a statistically significant association between an animal's quantity of CD16 antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

46. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of CD16 and CD2 double-positive antigen-expressing cells;

determining a statistically significant association between an animal's quantity of CD16 and CD2 double-positive antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

47. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of CD8 antigen-expressing cells;

determining a statistically significant association between an animal's quantity of CD8 antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

48. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of MHC-DQ antigen-expressing cells;

determining a statistically significant association between an animal's quantity of MHC-DQ antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

49. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB;

determining a statistically significant association between an animal's quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB and robustness; and

selecting for the animal in order to improve robustness based on the association.

50. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQD;

determining a statistically significant association between an animal's quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQD; and

selecting for the animal in order to improve robustness based on the association.

51. A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the proliferation frequency of CD4 antigen-expressing cells;

determining a statistically significant association between an animal's proliferation frequency of CD4 antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

52. The method of claim 45 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

53. The method of claim 46 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

54. The method of claim 47 wherein the species is selected from the group consisting of *Bos taurus*, *Sus*

scrofa, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

55. The method of claim 48 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

56. The method of claim 49 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

57. The method of claim 50 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

58. The method of claim 51 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.